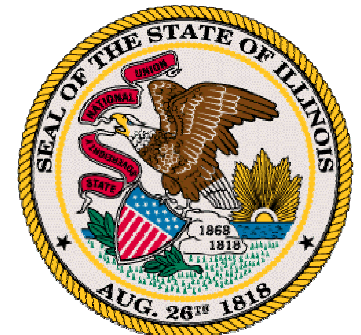




On-Site Hydrogen Generation & Refueling Station



Project Objective

Demonstration of Auto Thermal Reforming based
refueling station

DOE Objectives

Demonstrate hydrogen fueling station

On-site Auto Thermal Reforming of natural gas

Cost analysis vs. target of \$3/gge in 2008

Evaluation of FC vehicles under real-world
conditions

Public education on hydrogen and fuel cells

Performance goals

	Design
Hydrogen Purity	>99%
Flow Rate	100 nm ³ /hr
Compression & Storage	6200-6500 psi
Dispensing	5000 psi
Refueling rate	15 min per bus 3-5 min per car

Approach

- On-site Natural Gas reforming with Catalytic Auto Thermal Reforming (ATR) technology
- Advanced sulfur removal technology
- Purification through Pressure Swing Adsorption (PSA)
 - Producing 100 nm³/hr of high purity hydrogen
- Compression & Storage for 5000 psi Dispensing
- Close integration of hydrogen production and CS&D
- Demonstration
 - Refueling fuel cell & HCNG busses in commercial operation
 - Refueling fuel cell & HCNG street sweepers and cars
- Collaboration with SunLine Services Group for CS&D, education and demonstration

Accomplishments to Date

- Project start date January 2003
- Prototype built & installed with testing on-going
- Demonstration unit design complete March 2003
- Demo unit fabrication in progress May 2003
- Compression, storage & dispensing system designed with equipment on order May 2003

Project remains ahead of schedule and on-track to meet technical and operational goals

Future Milestones

- Permitting complete June 2003
- Demonstration unit delivered to SunLine July 2003
- Refueling station operational August 2003
- Demonstration August – October 2003
- Post-project plans:
 - Continued use of refueling station at SunLine for fuel cell and HCNG busses and vehicles
 - Leveraging technology for industrial applications
 - Continued public education at SunLine's facility